

IMCI: In The Hands of Families



Promoting Key Practices in South-East Asia



**World Health Organization
South-East Asia Region**

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Community Health Cell
Library and Documentation Unit
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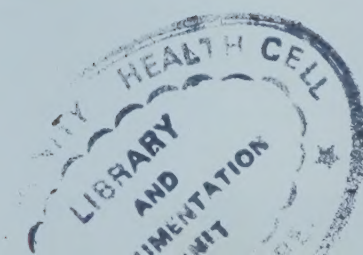
IMCI: In *The* Hands of Families

Promoting Key Practices in South-East Asia



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Message from the Regional Director

Countries in the SEA Region of WHO contribute to about 40% of the childhood deaths in the world. Nearly 3 million children die every year due to acute respiratory infections (ARI), diarrhoea, measles, malaria and undernutrition. In addition, childhood morbidity places a heavy burden on the hospitals and health centers in the countries of the Region. Children are the future of the nations. If they are not healthy or die prematurely, the countries in the Region cannot enhance their socioeconomic development rapidly.



An integrated, holistic approach is needed to prevent deaths and promote child health and development. WHO and UNICEF have developed the Integrated Management of Childhood Illness (IMCI) strategy to address this problem. Success in reducing childhood mortality requires more than the availability of adequate health services with well trained personnel. Families have major responsibility for caring for their children. For success, a partnership is required between the health workers and the families. This partnership should be supported by the communities. Health workers need to work with the families and communities to encourage adequate home care and in turn, families should be able to respond appropriately to seek timely assistance and by complying with the advice. Therefore, empowerment of families and communities through improved child care practices is important in scaling up the IMCI strategy.

After reviewing the IMCI strategy and the resource material available, key areas were identified for a focus on key messages to be adopted by the families and communities in improving child health and development. The existing practices were reviewed. The available evidence in the countries of the SEA Region in support of family and community practices was consolidated. Based on this information, key messages were identified, and consolidated in the form of a generic illustrated guide for use in the SEA Region. I hope that the countries will review the existing national policy and strategy for improving the family and community practices and then adapt the generic materials for application at the country level. The contribution of empowered families and communities in improving child health and development should become an integral part of IMCI strategy in the countries of the Region.

Dr. Uton Muchtar Rafei
Regional Director
WHO, South-East Asia Region

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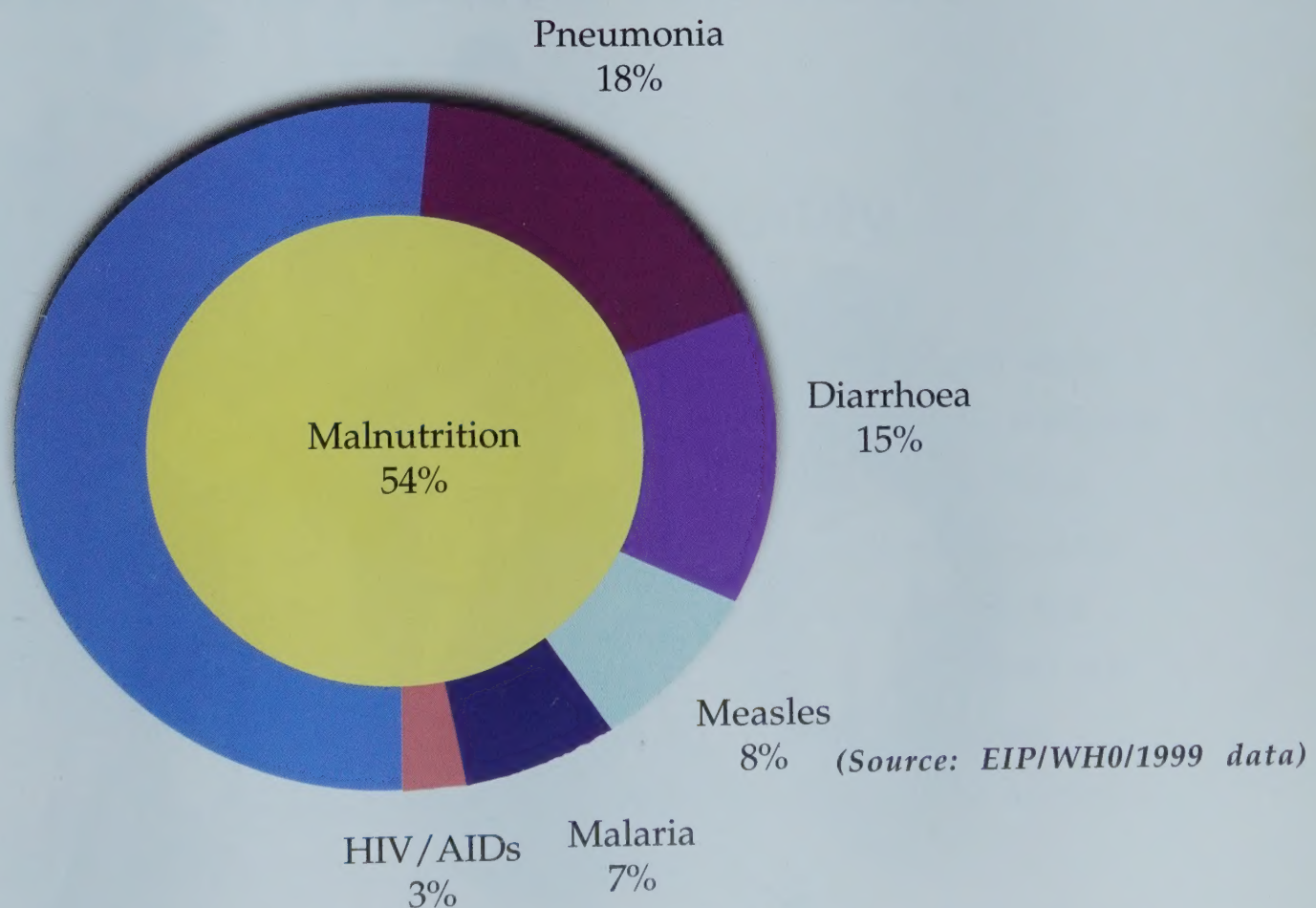
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Background

IMCI combines several individual programme approaches to combat five child health problems which globally account for seven out of ten childhood deaths: acute respiratory infections, diarrhoea, measles, malaria and malnutrition. Although these individual approaches, when operated as vertical programmes, achieved initial successes, it became increasingly evident that on their own they would have difficulty in achieving the targets of reducing underfive mortality.¹ For example, immunization will prevent measles and reduce mortality up to a point. However, for children who do contract measles, avoiding death will hinge on other factors such as adequate feeding and appropriate management of diarrhoea and respiratory infections. Thus, an integration of these different aspects makes sense from a programme point of view. Moreover, an integrated approach is beneficial, since many children suffer from more than one problem at the same time. Rather than being problem or disease-oriented, an integrated approach focuses on the child as a whole.

Success in reducing childhood mortality and in promoting optimum growth and development of children requires more than the availability of health services with well trained

Main causes of death in children under 5 years of age



health personnel. Since families have the major responsibility of caring for their children and the maximum concern for them, success requires a partnership between health workers and families with support from their communities.

Health workers in partnership with other developmental agencies should work with the families and solicit community support to ensure :

- (a) Improved health practices for child care at home;
- (b) Home treatment of mild illnesses with traditional non-harmful home remedies;
- (c) Timely recognition and prompt health care seeking when the child is sick, and
- (d) Compliance to the treatment.

IMCI requires action at three levels: the health system, the health facility and the family and community. Between the families and the health facilities are interface workers like the basic health workers and the community health volunteers. These health care providers can play a vital role in enhancing the family and community level actions which promote child growth development and survival. For the IMCI strategy to be effective, this must be synchronized and well coordinated.



IMCI AT ALL LEVELS



Examples of requirements at the first health facility level are an adequate drug supply and a functioning referral system. At the health facility level, guidelines should be provided for integrated case management at health facilities and health care providers should be trained in the correct application of these guidelines. Since the start of IMCI in 1995, some efforts have gone into making first level health facilities functional. Health care providers in six countries of the South-East Asia Region have been trained through an 11-day course. Family and community level actions need to be reinforced through strengthening the skills of the basic health workers and community health volunteers who act as an interface between the health facilities and the families. In some countries, a beginning has been made by training basic health workers.

A five-day training course material fully consistent with IMCI guidelines has been adapted and used.

IMCI at the family and community level

Implementation of IMCI at the family and community level has lagged behind the training of health workers partly due to insufficient information and a lack of guidelines on how to do this. The family and community component of IMCI which is one of the three pillars, has often been ignored right from the planning phase. As mentioned, only a beginning has been made in the training of the basic health workers. To influence the families and to solicit support from the communities, other sectors have to be involved, since the target audience for the family and community interventions is very large. These other sectors include workers and volunteers from women's groups, education, social welfare, youth groups, agriculture, water and sanitation staff and those responsible for nutrition and community development.

The existing programmes and policies have not provided consistent messages for application and use at the family and community levels. However, during the first five years, a lot of work has gone into researching topics for which there was inadequate data and developing and testing modules and tools for key components which will influence family and community practices . This work has been undertaken by WHO and UNICEF and has benefitted from inputs from the Inter-Agency Working Group on Community-based IMCI.



Key practices at family and community level

Perhaps most significantly, twelve key practices have been identified to improve child survival, growth and development at family and community level, [2]. Available evidence suggests that families could contribute by adhering to the following key practices:

- (1) Breastfeed infants exclusively for six months. (Mothers found to be HIV-positive require counselling about possible alternatives to breastfeeding.)
- (2) Starting after about six months of age, feed freshly prepared energy and nutrient-rich complementary foods, while continuing to breastfeed up to two years or longer.
- (3) Ensure that children receive adequate amounts of micronutrients (vitamin A and iron, in particular), either in their diet or through supplementation.
- (4) Dispose of faeces, including children's faeces, safely; and wash hands after defecation, before preparing meals and before feeding children.
- (5) Take children, as scheduled to complete a full course of immunizations (BCG, OPV, DPT and measles) before their first birthday.
- (6) Protect children in malaria-endemic areas, by ensuring that they sleep under insecticide treated bednets.
- (7) Promote mental and social development by responding to a child's needs for care and through talking, playing and providing a stimulating environment.
- (8) Continue to feed and offer more fluids, including breast milk, to children when they are sick.
- (9) Give sick children appropriate home treatment for infections.
- (10) Recognize when sick children need treatment outside the home and seek care from appropriate providers.
- (11) Follow the health worker's advice about treatment, follow-up and referral.
- (12) Ensure that every pregnant woman has adequate antenatal care. This includes at least four antenatal visits with an appropriate health care provider, and receiving the recommended doses of tetanus toxoid vaccination. The mother also needs support from her family and community in seeking care at the time of delivery and during the postpartum and lactation period.

Information and resources

Assessment and planning tools

- A strategy paper on "Home and Community Health Care to enhance Child Survival, Growth and Development" outlines a framework for implementing the key family practices at the community level³
- An assessment tool is intended to inform planning decisions for the implementation of IMCI at the community level⁴
- A planning tool is intended to assist planning at national and district levels⁴
- A survey questionnaire to obtain baseline household information has been designed⁵ and tested in Egypt⁶

Research

- Studies to evaluate impact of nutrition counselling promoted through IMCI in Brazil and Pakistan
- Studies to assess careseeking practices in Ghana, Mexico and Sri Lanka
- Study of family responses to recommendations for follow-up consultations and referral in Sudan.
- Studies of community-based interventions to improve nutrition in India and Peru.
- Evaluation of the effectiveness of currently available and affordable technologies in reducing levels of indoor air pollution in rural Guatemala.
- Study of factors determining the level of exposure of young children to indoor air pollution in Guatemala.
- Study of caretakers adherence to recommendation to give zinc supplements to young children in India.
- Study of the impact of daily zinc supplementation to prevent malaria in Burkina Faso

Analysis and reviews

- Meta-analysis of studies from six countries on the effect of breastfeeding on child mortality
- Review of "Evidence for the effectiveness of breastfeeding counselling"
- Technical consultation on HIV and Infant Feeding: Implementation of Guidelines
- An assessment tool to determine exclusive breastfeeding as part of research on HIV transmission

- Review of the role of air pollution as a risk factor for pneumonia
- Review of “A critical link: Interventions for physical growth and psychological development”
- Meta-analysis of the benefit of zinc supplementation

Training modules and tools

- Module to train health workers to counsel mothers more effectively on complementary feeding
- Manual on how to identify improved complementary foods among those available to families and appropriate feeding practices to recommend to caretakers
- Curriculum for a four-week course for specialists on the promotion of breastfeeding
- Course to improve infant feeding in emergencies
- Pre-service training in breastfeeding counselling in Viet Nam
- Three-day training course for health workers on HIV and infant feeding counselling
- Module on “Care for Development”
- A training package on IMCI for Community Health Workers
- A training package on IMCI for Basic Health Workers
- An illustrated guide for volunteers to improve Family and Community Practices

Some of the above-mentioned studies are still underway and some of the materials are undergoing revision, but the majority of the information and tools are available to facilitate the implementation of IMCI in the community.

Family and Community Practices in South-East Asia

This review of IMCI-related family and community practices is based largely on documents available at or accessible through WHO's Regional Office for South-East Asia. The twelve key practices provided framework for the review. For each message an attempt was made to include data on the situation in the WHO South-East Asia Region (SEAR) and information about intervention approaches. At the end of each key practice, important messages for improving family and community practices have been outlined.

Status of IMCI implementation in SEA Region.



DPR Korea, Sri Lanka
Bangladesh, Bhutan
India and Myanmar
Indonesia, Nepal

Introduction
Implementation
Expansion

Exclusive Breastfeeding

(1) Breastfeed infants exclusively for six months (Mothers found to be HIV-positive require counselling about possible alternatives to breastfeeding.)

Undernutrition is associated with 50% of all childhood deaths. Undernutrition retards child growth and development. Lack of family resources is an important factor but in many families undernutrition is caused by inappropriate feeding practices that can be improved without increasing the costs substantially. Improving breastfeeding practices can reduce the number of child deaths by more than 10%.

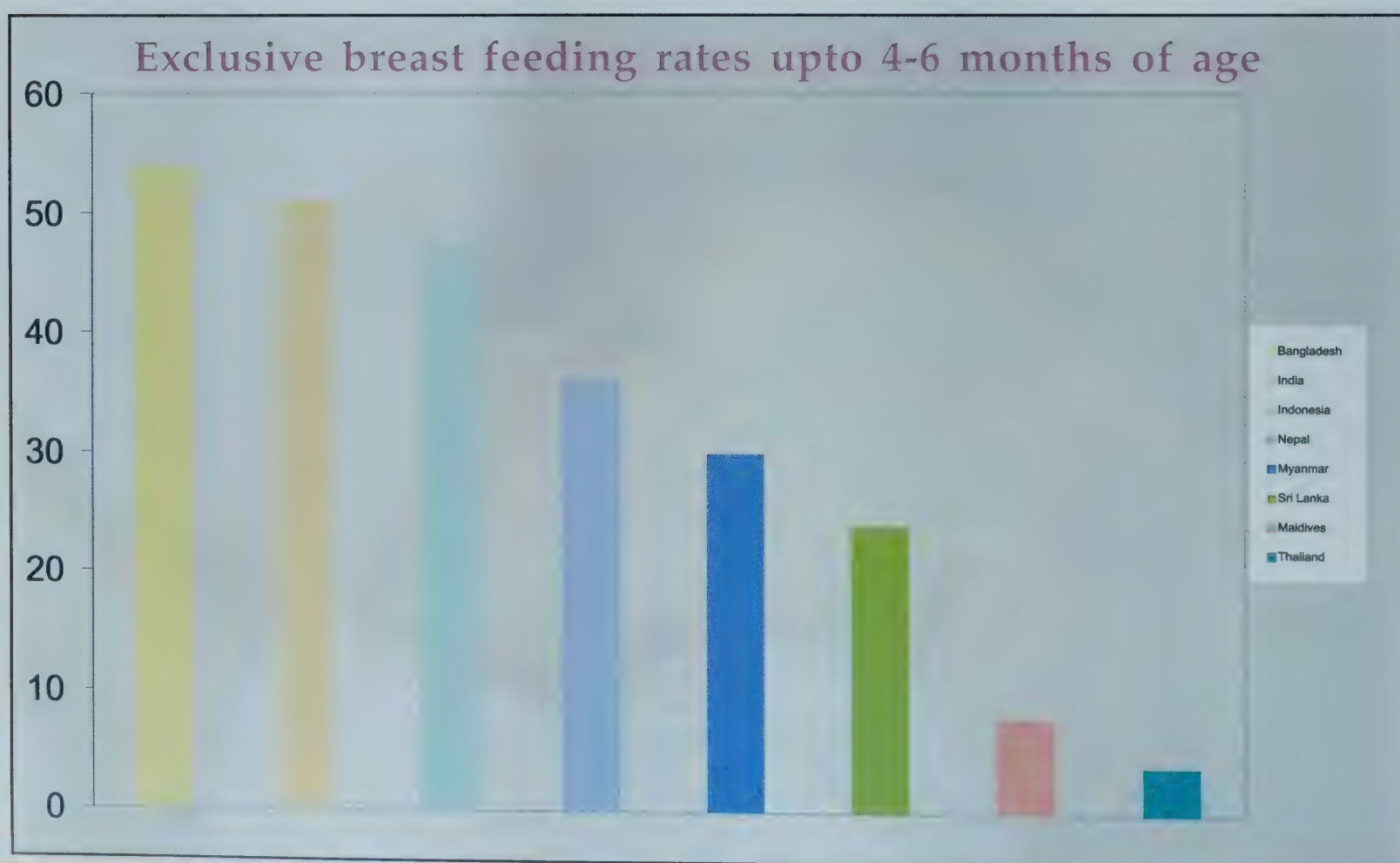
Although exclusive breastfeeding as a global recommendation was formulated a decade ago⁷, its definition still appears to cause some confusion. For health and nutrition professionals, exclusive breastfeeding used to mean breastfeeding without the addition of other milks or solid foods. Non-nutritive supplements such as water and teas were viewed as inconsequential, and to many it may be counter-intuitive that such supplements can be associated with two to three times higher diarrhoea morbidity^{7, 8} and mortality rates¹⁰ than those observed with exclusive breastfeeding. The ideal length of exclusive breastfeeding has continued to be debated since the original wording of four to six months as formulated in the Innocenti Declaration in 1990⁹. Recent work of Dewey, Cohen et al in Honduras indicated that no added growth advantage was observed in infants when complementary foods were introduced before six months of age.



A WHO consultation on optimal duration of exclusive breastfeeding recommended exclusive breastfeeding for six months and introduction of complementary foods and continued breastfeeding thereafter. After considerable debate, the fifty fourth World Health Assembly recommended that exclusive breastfeeding should be continued up to the first six months of age. Countries should be encouraged to adapt this recommendation according to their national policies.

A recent compilation of nutrition in South-East Asia shows that the proportion of infants less than four months old who were exclusively breast-fed was 54% in Bangladesh, 51% in India, 47% in Indonesia, 36% in Nepal, 30% in Myanmar, 24% in Sri Lanka, 8% in Maldives and 4% in Thailand¹¹. In other words, at best about half of the infants below four months of age are exclusively breastfed. These figures may be overestimates. For example, studies in Bangladesh have reported 14% of exclusive breastfeeding among three- to four-month old infants¹², and 6% among five-month old infants¹³.

Intensive promotion of exclusive breastfeeding has been found to increase this practice substantially¹⁴. A randomized community-based trial of home-based counselling in Mexico demonstrated that there was significantly more exclusive breastfeeding in intervention groups compared to the control group and a greater effect of more frequent counselling¹⁵. Similarly, a randomized controlled trial in Bangladesh demonstrated that community-based peer counsellors



significantly increased exclusive breastfeeding at five months, from 6 to 70%¹³.

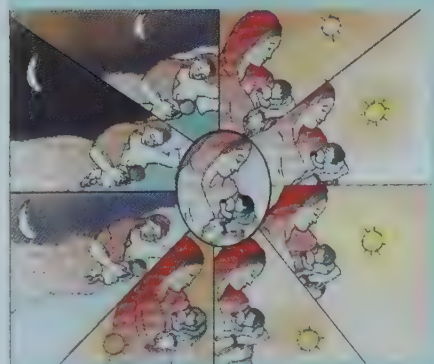
While it is important to educate caretakers about the value of exclusive breastfeeding, the need to educate health care providers about this may have been underestimated. In many cases, health care providers have advised mothers to give water or to begin adding foods early¹⁶.



Early initiation of breastfeeding



Proper positioning and attachment of the baby on the breast



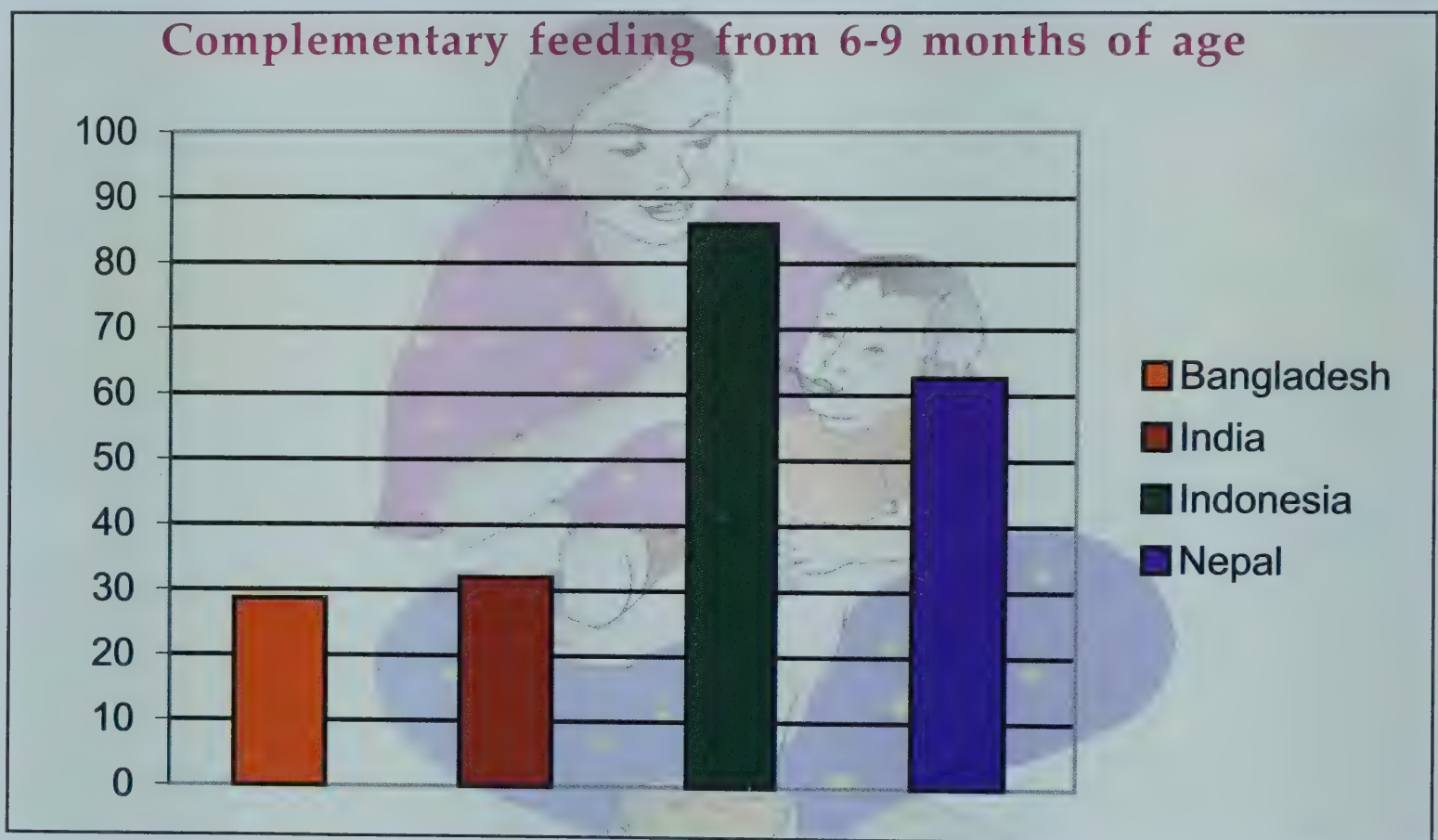
Breastfeed at least eight times during day and night

Complementary Feeding

(2) Starting after six months of age, feed freshly prepared energy and nutrient rich complementary foods, while continuing to breastfeed up to two years or longer.

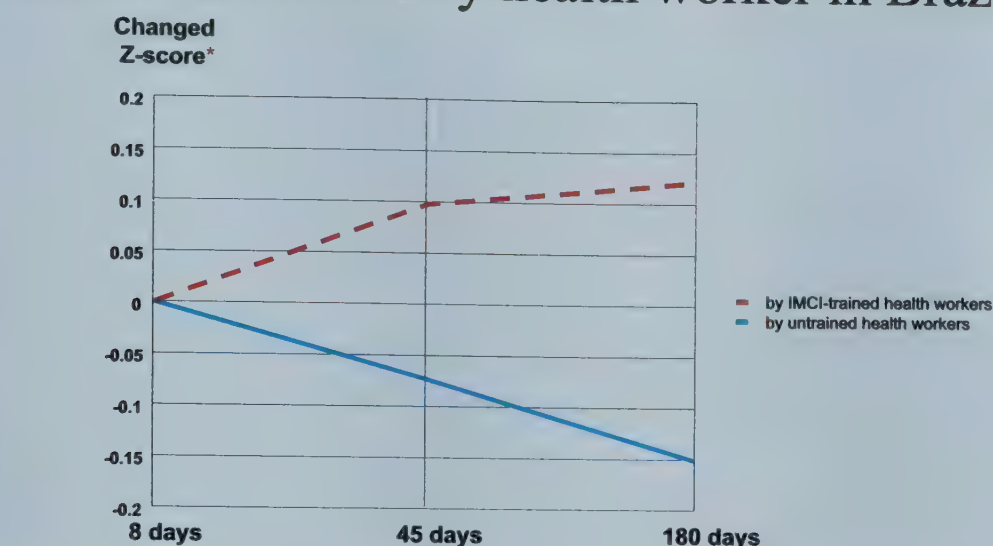
(a) Complementary feeding

There appears to be considerable variation among the countries in the Region with respect to timing of introduction of complementary feeding. Among children six to nine months of age, the proportion receiving complementary foods was 29% in Bangladesh, 32% in India, 86% in Indonesia and 63% in Nepal ¹⁷.



As a baby grows and becomes more active, breast milk alone is not sufficient to meet the child's requirements. Complementary foods are needed to fill the gap between the total nutritional needs of the child and the amounts provided by breast milk. Due to gaps in complementary feeding the problem of undernutrition is maximal in children between 9-24 months of age in the countries of the SEA Region. The main problems are late introduction of complementary foods and their inadequacy. To prevent undernutrition, complementary foods should be nutritious (adequate in quantity and quality), clean and safe. Complementary foods may be commercial, specially made or modified family meals. Improved complementary feeding can lead to reduction in malnutrition by about 20%, reduce deaths caused by diarrhoea and pneumonia by about 10% and increase resistance to measles and other illnesses.

Changes in weight-for-age (Z-score) of children after consultation by health worker in Brazil



* The 0 point represents the initial weight-for-age value, 8 days after the consultation. Positive Z-score values indicate improvement in nutritional status, and negative Z-score values indicate that children are not adequately gaining weight.

A recent WHO– supported study in Brazil showed the impact of improved nutrition counselling component of the IMCI strategy on the diets of children in terms of increased food density, frequency and adequacy. This in turn improved the weight gain in children significantly.

In recent decades, substantial efforts have gone into designing interventions to improve complementary feeding. Such interventions have ranged from nutrition education activities to supplementary feeding programmes and have included combinations and variations of these approaches¹⁴. It is hard to draw definitive conclusions except that more intensive efforts have resulted in better growth of children. Nutrition education interventions, for example, were more successful when information was conveyed through multiple channels and included direct interpersonal communication. Manufactured complementary foods have generally been found to be too expensive for the poor families and hence would not help those families improve complementary feeding.

Even when extensive formative research preceded recommendations to prepare special foods to ensure their cultural appropriateness and affordability, the final lesson was that mothers are unwilling or unable to separately prepare food for the baby on a daily basis, and that they are more likely to implement recommendations requiring little extra time and money. One such feasible suggestion may be to add a little extra oil to the child's food as a way to increase the energy density.



(b) Continued breastfeeding

With respect to continued breastfeeding for two years or longer, the situation in South-East Asia is favourable. As a Region, South-East Asia has the highest median duration of breastfeeding in the world i.e., 25 months¹⁸. In Bangladesh, the median duration of breastfeeding is over 36 months, in India 25 months, in Indonesia 25 months and in Nepal 29 months¹⁷. Thus a considerable number of children in these countries receive a substantial supplement of energy and key nutrients even after the age of two years. This is a practice worth protecting and supporting.

There is little experience of promoting breastfeeding beyond two years of age. This may partly be explained by relatively satisfactory situations in many countries. However, prolonged breastfeeding at times has been viewed as a practice that should be discouraged, not encouraged, a view that may have been prompted by findings associating prolonged breastfeeding with poor growth. In fact it is not prolongation of breastfeeding which is associated with undernutrition. Rather a delay in introduction of complementary foods, the restricted quantities in which these are offered, the poor quality and lack of cleanliness are responsible for undernutrition. Such

findings could have been due to confounding factors or reverse causation ¹⁴. In this context, it is worth pointing out that any programme to promote complementary feeding must reinforce the importance of continued breastfeeding. It has been suggested that this may have been neglected by many programmes and could have contributed to a decline in the duration of breastfeeding ¹⁹.

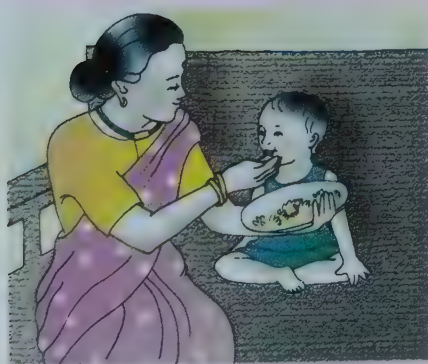
Continued breastfeeding is an important source of food for children 6-24 months of age. Up to 400 or more K calories can be provided every day through continued breastfeeding. This can be a considerable source of food especially amongst poor families. Continuation of breastfeeding beyond the age of six months can help supplement the requirements of complementary feeding.



Introduce complementary foods after six months of age



Feed three times everyday after 6-12 months of age, continue breastfeeding



Feed five times everyday after 12 months of age, continue breastfeeding



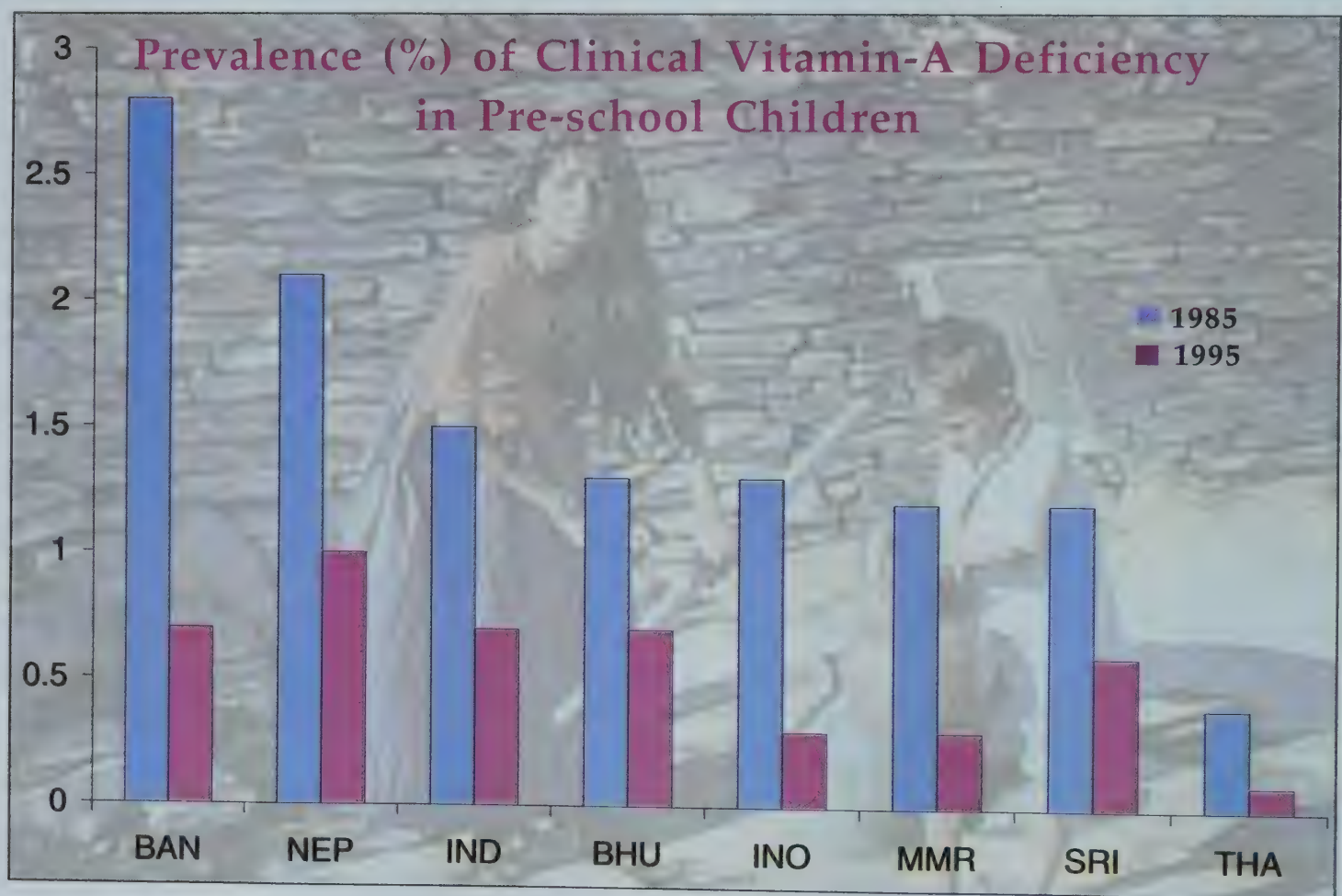
Give family foods at least five times everyday between 2-5 years.

Micronutrients

(3) Ensure that children receive adequate amounts of micronutrients (vitamin A and iron, in particular), either in their diet or through supplementation.

(a) Vitamin A

Vitamin A deficiency has been a serious public health problem in most countries of the South East Asia Region, but has been declining. Comparing data from 1985 with data from 1995, clinical vitamin A deficiency in pre-school children dropped from 2.8% to 0.7% in Bangladesh, from 2.1% to 1.0% in Nepal, from 1.5% to 0.7% in India, from 1.3% to 0.7% in Bhutan, from 1.3% to 0.3% in Indonesia, from 1.2% to 0.3% in Myanmar, from 1.2% to 0.6% in Sri Lanka and from 0.4% to 0.1% in Thailand¹¹. Less severe vitamin A deficiency is of significance, as it has been shown to be associated with increased child mortality after the age of six months.



Improving the intake of vitamin A through diet or supplementation can reduce child mortality by 20% in areas where vitamin A deficiency is common. If breast milk is continued upto 24 months of age, the gap in vitamin A needs is very small i.e. about 5-10%.

Approaches for reducing vitamin A deficiency have included distribution of vitamin A capsules to preschool children, nutrition education, encouraging the consumption of dark green leafy vegetables and orange fruits, home garden projects, promotion of breastfeeding and fortification of various food items. An evaluation of efforts to reduce vitamin A deficiency in Bangladesh showed that children who had not received a vitamin A capsule in the past six months were nearly 2.2 times more likely to be night blind than children who received a capsule²⁰. Children who were not breast-fed were 2.6 times more likely to be nightblind than those who were breast-fed. An earlier Nutritional Blindness Study in Bangladesh demonstrated that breastfeeding was associated with a lower risk of nightblindness at each age from birth to five years²¹. The levels of vitamin A in breast milk are influenced by the mother's own vitamin A status²². Thus, both the mother and the baby will benefit if the mother consumes enough food that provides vitamin A or receives supplements. Home gardening deserves attention as a potentially more sustainable solution and has been shown to work. Among children in Bangladesh who had not received a capsule, those living in a household without a home garden were 2.2 times more likely to be nightblind than those living in a household with a home

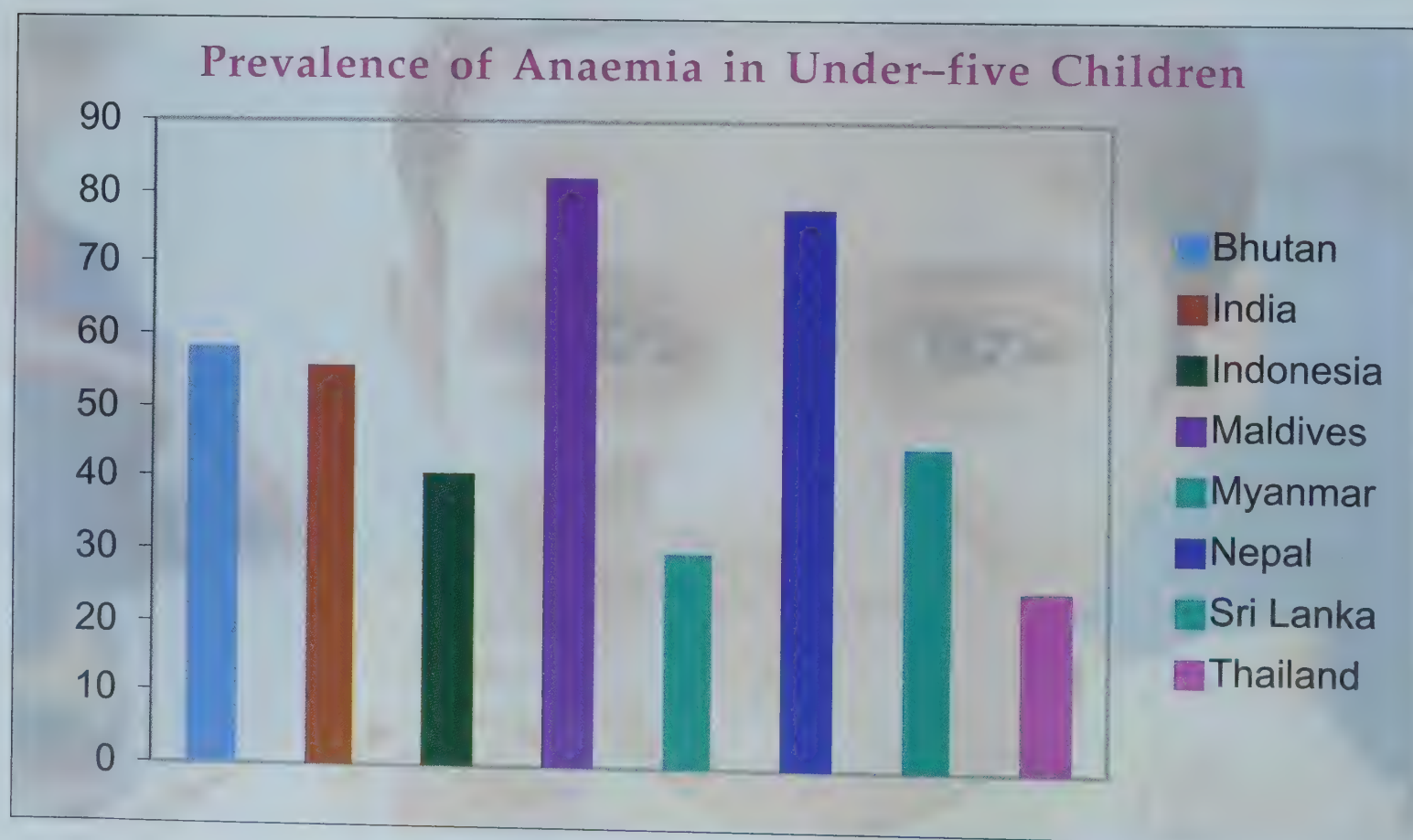


garden²⁰. However, the amounts of vitamin A precursors available from dark-green-leafy vegetables and fruits have recently been shown to be lower than previously believed.

In some countries in Asia, vitamin A fortified monosodium glutamate (MSG) has been shown to improve vitamin A status. A controlled trial in Indonesia demonstrated that fortification of commercially marketed MSG improved serum vitamin A levels of young children and the vitamin A content of breast milk²³. An evaluation of the relative effectiveness of three different intervention strategies to control vitamin A deficiency was undertaken in Philippines: a public health and horticulture intervention, capsule distribution and fortification of MSG²⁴. The MSG fortification was the only intervention that resulted in both a significant reduction in clinical signs of xerophthalmia and in a significant rise in serum vitamin A levels. These findings have a policy implication that vitamin A fortification of MSG may be a useful public health intervention in reducing the problem of vitamin A deficiency.

(b) Iron

Data obtained between 1991 and 1998 show that the level of anaemia among children under five years of age was 58% in Bhutan, 56% in India, 41% in Indonesia, 82% in the Maldives, 30% in Myanmar, 78% in Nepal, 45% in Sri Lanka, and 25% in Thailand¹¹. Recent surveys conducted in some countries indicate an increase in the prevalence of anaemia in under-five children.



Continuation of breastfeeding upto two years of age leaves a gap of 90% of the total daily requirement. This must come from complementary foods between 13-24 months age. Iron is rich in animal foods such as liver, egg, fish, meat and in plant foods like cereals pulses, and dark green leafy vegetables. Iron in meat, liver and fish is easily absorbed in the body while iron in cereals, pulses, eggs and leafy vegetables is poorly absorbed. The iron in cereals, pulses, eggs and leafy vegetables is absorbed better if these are taken with foods containing vitamin C. Tea and coffee should be avoided since they interfere with the absorption of iron in food. If sufficient iron cannot be provided in the diet, it is useful to consider giving iron supplements to infants and young children.

It is nearly impossible to provide enough iron for small children to meet the calculated needs unless unrealistically high quantities of animal products are given³. As discussed above, specially modified complementary foods have generally not been found to be feasible alternatives. Fortified commodities, where they are available and affordable, may help increase the iron intake of infants and children. Where iron-fortified complementary foods are not widely and regularly consumed by young children, it is recommended that infants routinely receive iron supplements in the first year of life²⁵. Where the prevalence of anaemia in young children (6-24 months) is 40% or more, supplementation should be continued through the second year of life²⁵. Evaluations of the efficacy of varying frequency of iron supplementation have demonstrated that among preschool children twice-weekly supplementation in Indonesia²⁶, and weekly supplementation in Vietnam ²⁷ had an effect on iron status similar to that of daily supplementation.



Give iron-rich foods and iron tablets/syrup.



Give vitamin A rich foods and vitamin A syrup

Water and Sanitation

(4) Dispose of faeces, including children's faeces, safely; and wash hands after defecation, before preparing meals and before feeding children

Improved hygiene practices which include safe disposal of excreta (including safe disposal of child's faeces) and hand washing can reduce the incidence of diarrhoea by more than 10%.

Disposal of faeces, both of adults and children, and hand washing after defecation, before food preparation and before feeding children are all behaviours which potentially will reduce diarrhoeal illness in children. A recent review and analysis of the potential impact of improved domestic hygiene behaviours concludes that priority should be given to behaviours that prevent stools from getting into the child's surrounding, i.e. disposal of faecal material and washing of hands after contact with adult and child stools²⁸.

Hand washing, per se, does not guarantee reduced risk of infection, however, traditional practices of hand washing after defecation in Bangladesh were found to be ineffective, leaving unacceptably high counts of coliform bacteria on both left and right hand ²⁹. Experiments to



develop alternative, more effective methods, comprised multiple components such as, source and volume of rinsing water, frequency of rubbing and use of rubbing agents. Considering that a large proportion of women said they could not afford soap, encouraging the use of ash and soil resulted in similarly low counts of bacteria.

As reported in 1986, 34 - 88% of people in a rural area in Myanmar, practiced hand washing after defecation or before handling food and 5 - 12% regularly used soap ³⁰. A study of hygiene behaviours in three Indian villages, published in 1992, found that only 2% of the mothers washed their hands after defecation and about 4% before preparing food ³¹. Research conducted in Thailand published in 1994, showed that mothers did wash their hands after the child's at their own defecation, but that most of them did not wash their hands after disposal of their child's faeces or before preparing milk ³².



A study undertaken to develop an empirically based intervention to improve domestic hygiene behaviours in Bangladesh identified key behaviours for reducing childhood diarrhoea³³. These behaviours included children defecating in the family living area and hand washing before food preparation.

An intervention study in Bangladesh assessed the impact of augmented water supply and health education ³⁴. Results showed that in both intervention and control areas, the incidence of diarrhoea was 40% lower in households where children's faeces were removed from the yard, where mothers washed hands after defecation of self and child and before handling food, and where handpump water was used, compared to households where none or only one of these practices was observed.

Another study in Bangladesh evaluated handwashing with soap and water in a periurban slum in Dhaka city ³⁵. This intervention was found to result in a nearly three-fold reduction of diarrhoeal episodes.

In Myanmar, the intervention message for mothers and children to wash hands after defecation and before preparing or eating food along with the distribution of bars of soap, significantly reduced diarrhoea incidence ³⁶. In Indonesia, there was an 89% reduction in diarrhoeal episodes among children whose mothers had been given soap and explained about the faecal-oral route of diarrhoea ³⁷.

A hygiene education intervention in Zaire, that addressed disposal of children's faeces and handwashing after defecation and before meal preparation and eating, resulted in an 11% reduction in the risk of reporting diarrhoea during the peak diarrhoeal season ³⁸.



Wash hands after defecation, before preparing meals and before feeding the child



Use sanitary latrines or cover faeces with mud

Immunizations

(5) Take children, as scheduled to complete a full course of immunizations (BCG, DPT, OPV, and measles) before their first birthday

Most of the deaths caused by measles can be reduced by timely vaccination of all children with measles immunizations i.e before the age of one year.

Coverage for the Region for routine vaccinations of OPV3, DPT3, BCG and measles was over 80% during 1995-97, but declined to about 70% in 1998³⁹. Declines were observed in Bangladesh, Bhutan, India, Indonesia and Nepal for all vaccinations. According to some experts, this may have been the result of resources having been shifted to polio eradication.



Maldives, Myanmar and Sri Lanka maintained their coverage for all child vaccinations.

As vaccination coverage went down, the number of reported pertussis cases went up, the real incidence being estimated at 8.5 million and causing 90000 deaths ³⁹. The number of reported cases of the other vaccine preventable diseases declined in spite of reduced coverage. However, it is likely that the true incidence for these diseases, too, was considerably higher than reported numbers because of unsatisfactory reporting.

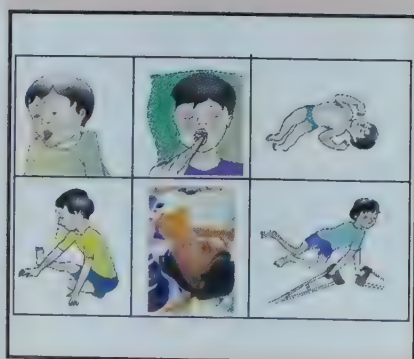
Striving to immunize all children against tuberculosis, polio, diphtheria, pertussis, tetanus and measles, a number of different strategies are employed. The basis for all immunization programmes are vaccinations provided at static sites on an ongoing, routine basis. Larger facilities may provide this service every day, while smaller ones may set aside a particular weekday for vaccinations. A second strategy is to organize outreach sessions, locally, on a regular basis. This could be the monthly health day at which vaccination is provided along with other services. A third strategy, designed to reach people in inaccessible areas, are mop-up rounds which are undertaken during times of the year when these areas are accessible. A fourth strategy

Immunization Strategies

1. Provision of vaccinations at static sites on an on-going routine basis;
2. Organization of out-reach sessions on a regular basis;
3. Mop-up rounds for inaccessible areas;
4. Campaign approach;
5. Taking the opportunity : Vaccination of unvaccinated children when they come to the health facility for other causes.

is the campaign approach. This approach has been used for measles, tetanus and now intensively for polio in an effort to eradicate the disease. A fifth strategy is to vaccinate unvaccinated children when they show up at health facilities for other reasons and not let these visits become "missed opportunities". There are only few contraindications to vaccinating sick children, experience has shown that it tends to meet with reluctance from both caretakers and providers. Caretakers may be preoccupied with a child's illness and in addition be worried that the child will become more sick. Health providers may be afraid of being blamed for causing the child's condition to deteriorate.

The different strategies in theory complement each other. In practice, competition is often unavoidable because resources, especially with respect to manpower, are limited. In 1998, out of one billion doses of polio vaccine given to children, 900 million were given as part of national immunization days ⁴⁰. It is understandable then that those responsible for routine coverage, feel that their efforts are threatened by the current attention given to campaign activities.



Give timely immunization to prevent six childhood illnesses



Complete all immunizations before the child's first birthday

Malaria

(6) Protect children in malaria-endemic areas, by ensuring that they sleep under insecticide-treated bednets

Early malaria eradication efforts achieved encouraging results. In India, for example, malaria incidence fell from an annual number of 75 million cases in 1955 to 0.1 million cases in 1965⁴¹. However, from having been close to reaching its eradication goal, the programme then underwent dramatic changes. The downward incidence trend shifted to an upward trend. By 1976, the number of reported cases of malaria in India had risen to 6.5 million and in the Region as a whole to 7.2 million. The main changes thought to have affected the programme were withdrawal of donor support for insecticides and transfer of malaria programme activities to the general health sector.

After 1976, the malaria incidence again started falling and by 1995 it dropped to about half of the 1976-level. However, while the total number of cases decreased, there was an increase in the proportion of the more dangerous falciparum malaria from 13% in 1977 to 39% in 1995. At the same time the problem of multi-drug resistance in *P. falciparum* is increasing and extending to new areas, indicating a growing problem of drug resistance.

In 1998, WHO launched the Roll Back Malaria initiative ⁴². IMCI will be able to contribute to this renewed effort to fight malaria through health workers trained to provide adequate care and with the help of families who know when to seek timely care, to give recommended treatment and, not least important, know-how to prevent malaria through various preventive measures.

Among preventive measures, insecticide-treated bednets combine the features of two approaches from the past—bednets and house spraying. The smaller amounts of insecticide needed for the bednets are both more economical and environment friendly. Randomized controlled



trials in Africa have demonstrated that, when used appropriately, insecticide-treated bednets can reduce mortality among children 1-4 years of age by an average of 25%⁴³. The experience gained in Africa has highlighted the need for adaptation to local conditions, taking into consideration people's sleeping patterns, and familiarity with and attitudes towards nets etc. Many practical issues related to retreatment of the nets need to be resolved before launching them on a large scale. A major factor is cost. In Gambia, significant mortality reduction was achieved⁴⁴ when insecticide was provided free. This advantage was reversed by the introduction of user charges⁴⁵. With free provision of insecticide, 77% of nets were treated with insecticide. When villagers had to pay for the insecticide, only 14% of nets were treated. This problem may be significantly reduced if nets and insecticide treatment are associated with some costs right from the start so that people do not come to expect this to be provided for free.

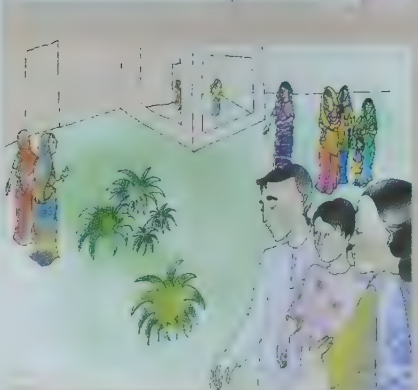
While consistent use of bednets and early treatment can reduce malaria morbidity and mortality, they are short-term measures. For sustainable improvements, long-term measures, such as elimination of breeding sites and biological control to reduce the number of malaria-carrying mosquitoes, are needed.



Protect children from malaria by using bednets



Use wire mesh on doors and windows and mosquito sprays to prevent malaria



Where malaria is common, take the child with fever to the health worker

Child Development

(7) Promote mental and social development by responding to a child's needs for care and through talking, playing and providing a stimulating environment.

Care practices at the household level are the behaviours of caregivers which influence how food and health care resources are translated into child survival, growth and development⁴⁶. Six aspects of care have been identified as important for meeting the physical, mental and social needs of young children^{46,47}:

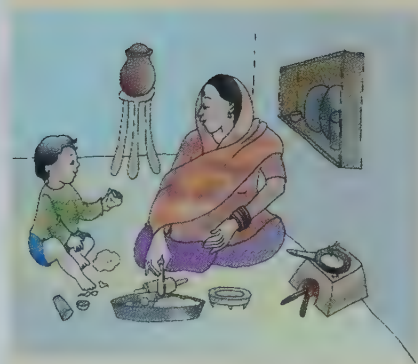
- Care for women
- Breastfeeding and complementary feeding practices
- Food preparation
- Hygiene practices
- Home-based health practices
- Psychosocial care



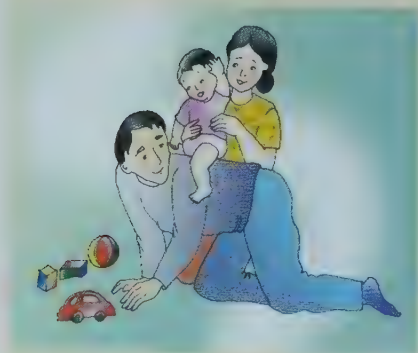
For example, with respect to breastfeeding and infant feeding practices, giving the right food is necessary. It is important to give it the right way. Breast milk, for example, is the best food for a young baby. For babies up to six months of age, it is best to give only breast milk. It is also best to breastfeed on demand. Like many caring behaviours this is about being responsive to the child's needs. A mother who is responsive to her sick child will probably find herself breastfeeding both more often and for longer periods, as the child ingeniously compensates for a low intake of other foods during illness. Breastfeeding more may also be a way for the child to receive more care in the form of reassuring closeness and affection.

In addition to nutrition and health caring behaviours, it has been shown that the psychosocial care that children receive has a bearing not only on their mental well-being, but also on their nutritional status ⁴⁸. Psychosocial care refers to responsive, attentive, affectionate behaviours of caregivers. Children's need for this type of care may be universal, but caregivers from different cultures may provide it in different ways.

Caregivers who are responsive with respect to a child's expected developmental stages, will be able to provide care that is appropriate for each stage. Psychosocial stimulation may be important for a child who, according to the IMCI scheme is classified as having ANAEMIA OR VERY LOW WEIGHT or has been treated in the hospital for SEVERE MALNUTRITION OR SEVERE ANAEMIA.



**For better mental and social development,
provide interactive and stimulating environment**



**Play is essential for the child's mental and social
development**

Feeding During Illness

(8) Continue to feed and offer more fluids, including breast milk, to children when they are sick

Studies that examined feeding during episodes of diarrhoea in Bangladesh⁴⁹, India⁵⁰ found that mothers continued feeding. Similar findings have been reported from Lesotho⁵¹, Mexico⁵², Nigeria^{53,54}, Peru^{53, 55}, Saudi Arabia⁵⁶ and Swaziland⁵⁷. In fact, it seemed that caretakers often made an extra effort to feed children, feeling that if they did not, the children would become weak. A study from Sudan showed that 30% of literate and 45% of illiterate mothers withheld breast milk and other food during diarrhoeal illness⁵⁸, i.e., more than half of the mothers did not withhold food. While in other settings, the situation may be different, these studies indicate that deliberate food withholding during illness is not a universal problem, even though it exists to some extent in some areas.



Since the 1980s, health education interventions targetting diarrhoea and other childhood illnesses have included the important message to continue feeding during episodes of illness. This was in contrast to previous recommendations from health providers to withhold food during episodes of diarrhoea. As illustrated above, for most caretakers, the advice to continue feeding (not only breastfeeding) is necessary. This advice should be strengthened and more appropriately formulated to support already existing practices and beliefs.

Withholding of foods during illness may not be a universal practice. The programme should reinforce the practice of continued feeding especially breastfeeding during acute illness. It is also important to encourage the caregivers to continue to feed the child as much as the child would take during the illness. This helps to prevent undernutrition following an acute illness. During recovery from illness, extra portions should be offered to encourage the child to attain the nutritional status before the child becomes sick again.



During illness give the child extra fluids to prevent dehydration



Continue feeding the child during illness

Home Care

(9) Give sick children appropriate home treatment for infections

Families use an array of home treatments ranging from herbal teas to traditional remedies. It may be important, in each geographical setting, to specify what is meant by "appropriate,"

giving a few examples of such treatments. Home treatment for infection, except to some extent for diarrhoea, does not appear to have been a topic that has given rise to journal articles in the medical nature as demonstrated by an unsuccessful search of medline.

Recommendations to give home treatments probably need to be relatively specific in order to increase the likelihood that the treatments used are indeed appropriate ones. These messages need to be adapted to suit the local cultural practices.

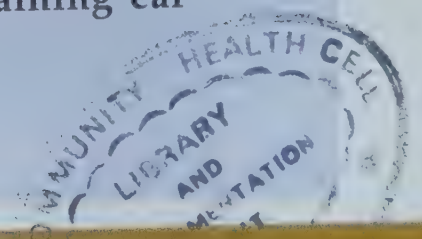


For cough and cold, give safe home remedies only



For ear infection, clean and dry the draining ear with home made cotton wick

CH-100



Care - Seeking

(10) Recognize when sick children need treatment outside the home and seek care from appropriate providers

High child mortality is related to inadequate access to health services and delayed or inappropriate health care seeking at the time of illness. IMCI strategy addresses these problems through provision of adequate health services and well trained personnel. However, recognition of sick children and seeking timely help from appropriate provider are important to reduce mortality. This requires a focus on the strengthening of the family practices and community support. For example, timely and appropriate care seeking can reduce deaths related to ARI by about 20%.

Guidelines for how to improve careseeking behaviour are being developed based on research undertaken in three study sites: Ghana, Mexico and Sri Lanka ⁵⁹. Caretakers in Ghana were found to have poor recognition of diarrhoea, malnutrition and, in particular, danger signs related to acute respiratory infections. Caretakers in Sri Lanka, too, were reported to have poor recognition of danger signs of pneumonia, diarrhoea and malnutrition, and were not able to



identify malaria. This lack of recognition, however, was not a barrier to careseeking and careseeking was timely, usually within two days of the onset of illness. In Mexico, mothers based their decisions for seeking care on their perception of the severity of the child's illness. Severity was most commonly associated with fever, changes in the child's activity level or eating patterns or the presence of danger signs. These perceptions agree well with the IMCI protocol for classifying severity.

In addition to delayed and inappropriate careseeking behaviour, there is a significant problem with the quality of care delivered at the health facility level. It should be underscored that appropriate or rational careseeking does not necessarily mean maximizing it. If the families are able to prevent illness and provide home care, the need for seeking outside care will be diminished.



Recognize danger signs and seek timely and appropriate care outside home

Follow-up

(11) Follow the health worker's advice about treatment, follow-up and referral

Compliance with correct treatment, timely utilization of referral services and follow up as advised determine to a large extent the favourable outcome from the disease. Treatment outside the home is advised when the disease is of sufficient severity and it is in these cases that the risk of death is higher. Participation by the family and the community determines the outcome. If this is not adequate, quality of treatment is not likely to have any impact. Besides an impact on mortality, these factors influence the time that it takes for the recovery to occur and the occurrence of undernutrition.



For caretakers, it is important to pay attention to the advice given by the health workers after returning from the clinic. Based on an extensive search of Medline, 1966-2000, using key words such as compliance / adherence and community / primary health care / infants / children, it is concluded that this is not a well studied subject. No relevant article, as judged by the available abstracts, was found. A similar search of social science data base yielded very little information.⁶⁰ Operational research should be promoted to improve these aspects of child care and strengthen the family and community practices.



Give sick children medicines as advised by health worker



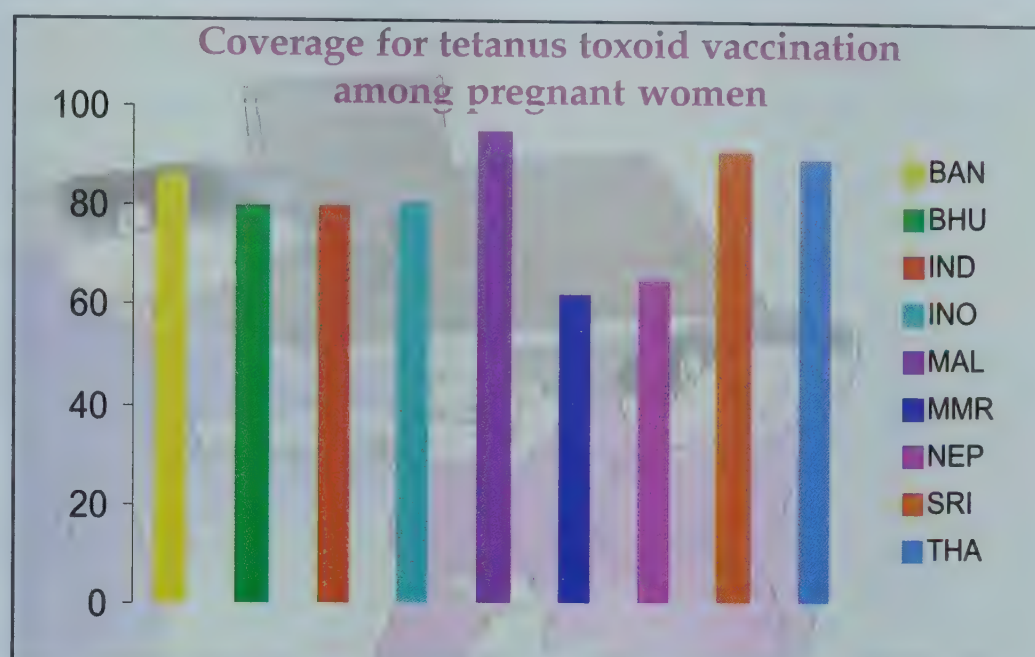
Take the child to the health centre after specified number of days for follow-up

Antenatal Care

(12) Ensure that every pregnant woman has adequate antenatal care. This includes having at least four antenatal visits with an appropriate health care provider, and receiving the recommended doses of tetanus toxoid vaccination. The mother also needs support from her family and community in seeking care at the time of delivery and during the postpartum and lactation period.

Adequate antenatal care, tetanus toxoid and postpartum care will not only help improve maternal health, but also the health of the child through prevention or reduction in low birth weight, reduction or

elimination of neonatal tetanus and improved nutrition of the child. This will also help to increase the mother's capacity for better child care. Promotion of maternal health is especially relevant to countries of the SEA Region because nearly 30% of the babies are born low birth weight, neonatal



tetanus is not eliminated in many countries and maternal health continues to be poor.

The percentage of women who received four or more antenatal visits, was 27% in India ⁶¹, 65% in Indonesia ⁶² and 9% in Nepal ⁶³ according to demographic and health surveys conducted during the 1990s. The same sources reported that in India, 54% of pregnant women received the recommended two tetanus toxoid injections, and 7% received one injection ⁶¹, while in Nepal, 33% received two injections and 13% one injection. The reported coverage for tetanus toxoid vaccination among pregnant women is high: in Bangladesh 86%; in Bhutan 80%; in DPR Korea 80%; in India 80%; in Indonesia 81%; in Maldives 95%; in Myanmar 62%; in Nepal 65%; in Sri Lanka 91%, and; in Thailand 90% ⁶⁴.

The promotion of antenatal care appears to have been based more on a widespread assumption that it is helpful than on scientific evidence ⁶⁵⁻⁶⁷. Presentations at a state-of-the art conference clearly demonstrated that the scientific evidence to support present timing and

contents of routine visits is unsatisfactory”⁶⁶. The extent to which antenatal care can reduce the infant and child morbidity and mortality with which IMCI is concerned may be more difficult to show. Tetanus toxoid injections, which is a common component of antenatal care, no doubt has an effect on neonatal tetanus. Convincing arguments have been presented, demonstrating that, while some women may be at higher risk of death from pregnancy, this is not easily translatable into programmes that can identify these women and then provide services that reduce their risk⁶⁸. An elaborate colour coding system for predicting risk in Malaysia was found to be ineffective⁶⁸.

In many countries, care during the postpartum period is a family affair. In India, the typical family-provided post-partum care package includes rest, massage and special foods⁶⁹. Few health programmes would be able to provide the equivalent care. Home-based post-partum care is another traditional practice that deserves to be protected and supported. This should be done after verifying its positive value.



At least four antenatal visits are required



Give two doses of tetanus toxoid and iron tablets regularly to every pregnant women



Pregnant women should have extra food and rest

Empowering Families

Simultaneous implementation

In IMCI strategy, tools and guidelines were first developed for the training of the health care providers in the first level health facility. Guidelines for treatment of referred patients, for drug supply and for follow-up supervision and monitoring were developed later. The SEA Region developed IMCI guidelines for basic health workers and then key messages for improving family and community practices were produced. Thus simultaneous implementation of IMCI has not been possible. It is realized increasingly that the component pillars of IMCI are critical for success in improving child health and development. It is important to plan and implement the three components of IMCI strategy i.e. improvements in the case management skills of the health staff using an integrated approach, strengthening the health system, and improvement in family and community care practices, simultaneously.

Family and community practices component should be adapted and launched at the same time as the other two components. Participants at the First Global Review and Coordination Meeting on IMCI ⁷⁰ voiced the fear that the community component of IMCI would end up being left behind. Their premonition proved rather accurate. So far, of the countries that have introduced the health facility component, only a fraction have introduced the family practices and community component. While this was understandable in the past when there were few resources to guide the implementation of the family and community practices component, at this stage, with the resources available, implementation of family and community practices component should not be delayed.

A support programme

While the health provider training has been implemented as a well-defined, self-contained package, this is neither feasible nor appropriate for the family and community practices component. Rather than being launched as a new and separate initiative, IMCI in the community may be more appropriately introduced as an effort





that provides guidance and support to already existing community-based child health and nutrition initiatives ⁷¹ which address IMCI components. There may be a need to add this component to the existing repertoire of activities.

There is a marked variation in the community resources and support available in the Member Countries of the Region. Where these resources exist and are effective, the introduction of guidelines for improving family and community practices is recommended. This will help to act as an interface between the community and the health services. In other situations where these resources exist but need strengthening, it is important to define what needs to be strengthened and how, what resources are needed and how can these be best used. There are areas where resources do not exist or are not identified and utilized. In these areas, implementation would require the identification of these resource groups, soliciting their willingness to participate and then involving them. These resource groups include, NGOs, mothers support groups, youth clubs, teachers, agriculture extension workers, village committees, religious leaders, and other community-based organizations.

Reaching all through partnerships

Besides the families themselves, any group or organization with an interest in supporting families to enhance the growth and development of their children should be invited to participate. The list of such community partners might therefore be long and could, for example, include government and private health providers, pharmacists, NGOs, social marketing

organizations, media, district or village leaders and committees, women's groups, and school teachers. The role of IMCI vis-a-vis these community partners would be to provide support for what they are already doing, and in some cases to inspire them to add additional activities to their agenda. Local leaders are a group of community partners who may be able to play key roles⁷² in IMCI by endorsing and supporting it and also by taking the lead in practical matters such as the acquisition and installations of handpumps or latrines.

It may be worthwhile, at an early stage, to identify and involve a few key partners in the process of adapting and introducing the IMCI community guidelines. This would help build consensus and increase the likelihood that messages communicated in already ongoing activities are consistent with IMCI guidelines. This kind of partner involvement is flexible and valuable during the process of adapting the guidelines to specific country situations and needs.

BUILDING PARTNERSHIPS AT THE COMMUNITY LEVEL



Many approaches

It is imperative that partners be encouraged to choose what they will work on and how they will do it. This is quite different from the training of health workers carried out in a uniform way according to a standard set of guidelines. In the community, it will not be possible to have the same degree of control over what happens and how. Rather, efforts have to be made create a common platform to ensure that there is a shared notion of what IMCI is striving to achieve. Care should be taken to provide resource materials that can facilitate the work of community partners.

A common platform

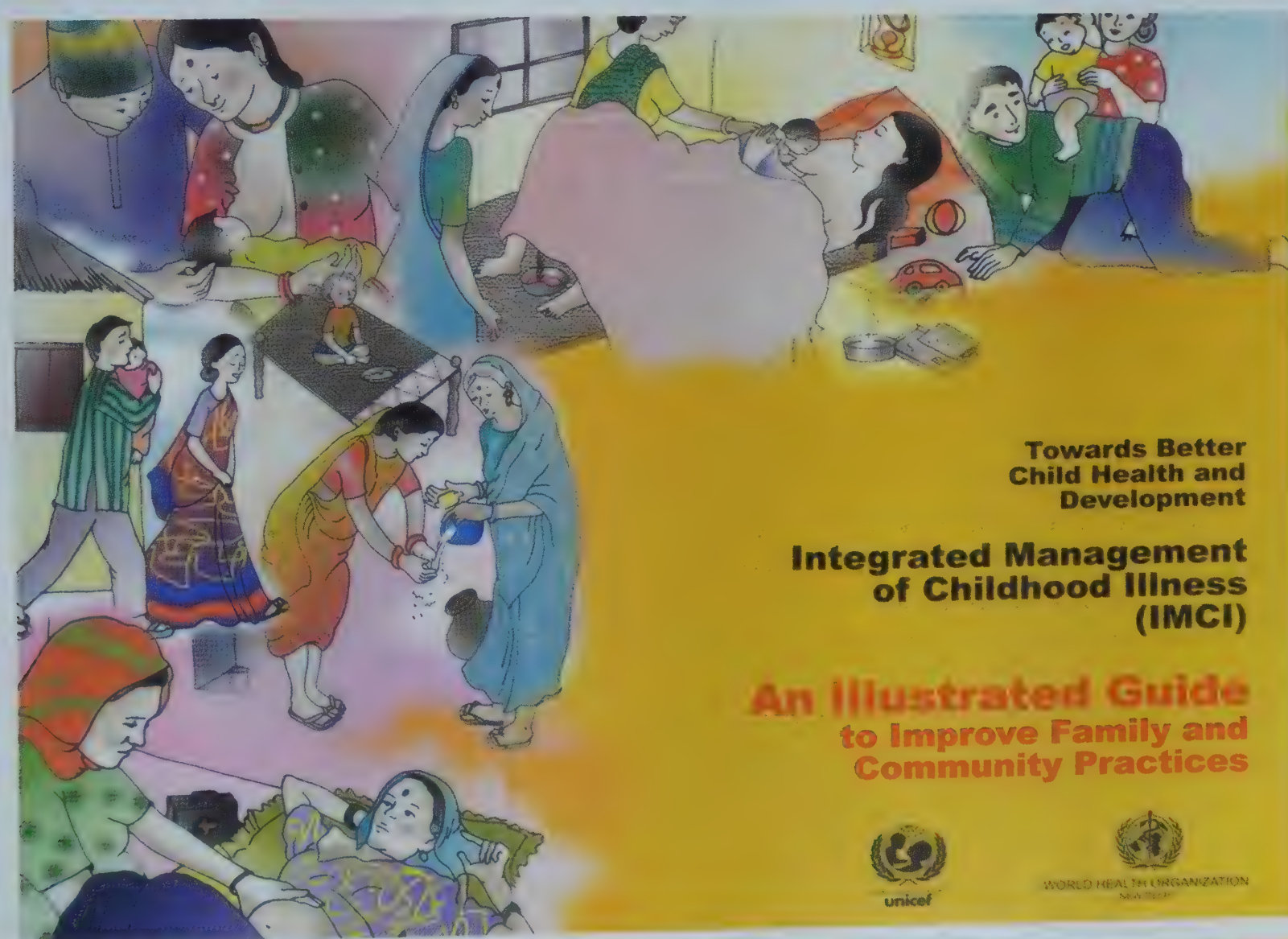
The twelve key practices, or the equivalent that a country decides on, provide an excellent framework for a shared notion of what families and community support can do to help reduce childhood illness and deaths. As in the case of the IMCI guidelines, most of these messages are not new. What is new is that it has been possible to agree on a manageable number of messages, a minimum package of family practices that can make a difference in enhancing child growth and development. Perhaps what deserves emphasizing is the feasibility of the package in the existing set up and the flexible approach that can be used in implementing it. Not only is the number of recommended practices relatively small, but care has also been taken to select practices that families would be able to undertake. While these key messages form the common denominator, there is a need to encourage adaptation based on local practices, and cultural norms.

Tools for community-based volunteers

An illustrated guide to improve family and community practices fully compatible with the key messages identified by WHO and UNICEF has been produced jointly by them. This guide is Basic health workers, health volunteers and other partners who act as an interface with the health services should make use of this guide to educate the caretakers regarding their role in improving child health and development. The illustrated guide can also be used to support groups to communicate key messages and convince the caregivers about what they should do to ensure timely recognition and prompt care seeking, comply with the treatment advised, improve health practices at home and be able provide home treatment with home-based traditional harmless treatments when the child has a mild illness.

A range of audiovisual materials and communication channels could be developed and used to convey to families and community partners the IMCI messages. Based on the illustrated guide, a child health booklet or a home-based card can be developed for use by the families. The child health booklet suggested is inspired by the health booklets used by nearly every child and adult in Lesotho. Experience has shown that families are able to keep their booklets and rarely lose them. Also crucial for the success of such a booklet is the mutual expectation among clients and providers respectively that the booklet be brought at all visits to a health provider. In Lesotho, the booklet is essentially a vaccination cum growth chart that has been expanded to include key health messages and to provide sufficient space for recording sick visits. Successful examples of home-based maternal records and child health records from many countries of our Region are available. These should be promoted and provided on a large scale to increase people's involvement.

By providing families with child health booklets one would literally put the power of their children's welfare into their hands. Most of the recommended family practices are meant to be carried out at home or initiated at home. As key players, families deserve to have access to the necessary information. This means that the information must be home-based.



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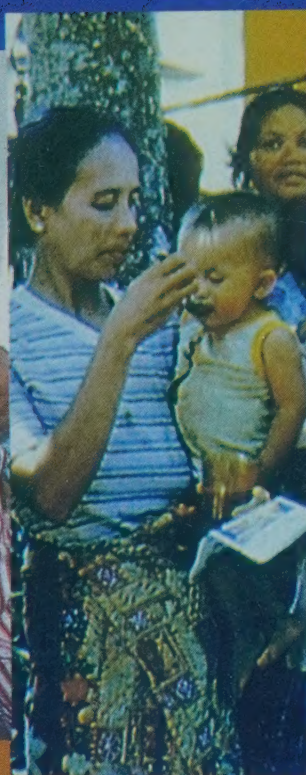
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